

INSPECTOR GADGET

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Principal at Arxis Technology, Inc.

Frequent speaker for AICPA, Flagg Management, Accountex, K2 & numerous state accounting societies

Named one of Accounting Today's 100 Most Influential People in Accounting fifteen times

CPA Practice Advisor – 2011-17 Top 25 Thought Leader

Currently serves on the Sage Mid-Market ERP Partner Advisory Council

AKA “Inspector Gadget”

Map

Technology

- Future
- Current

Devices

Accessories

#IoT

Gadgets

Audio & Entertainment

#FAIL



technology

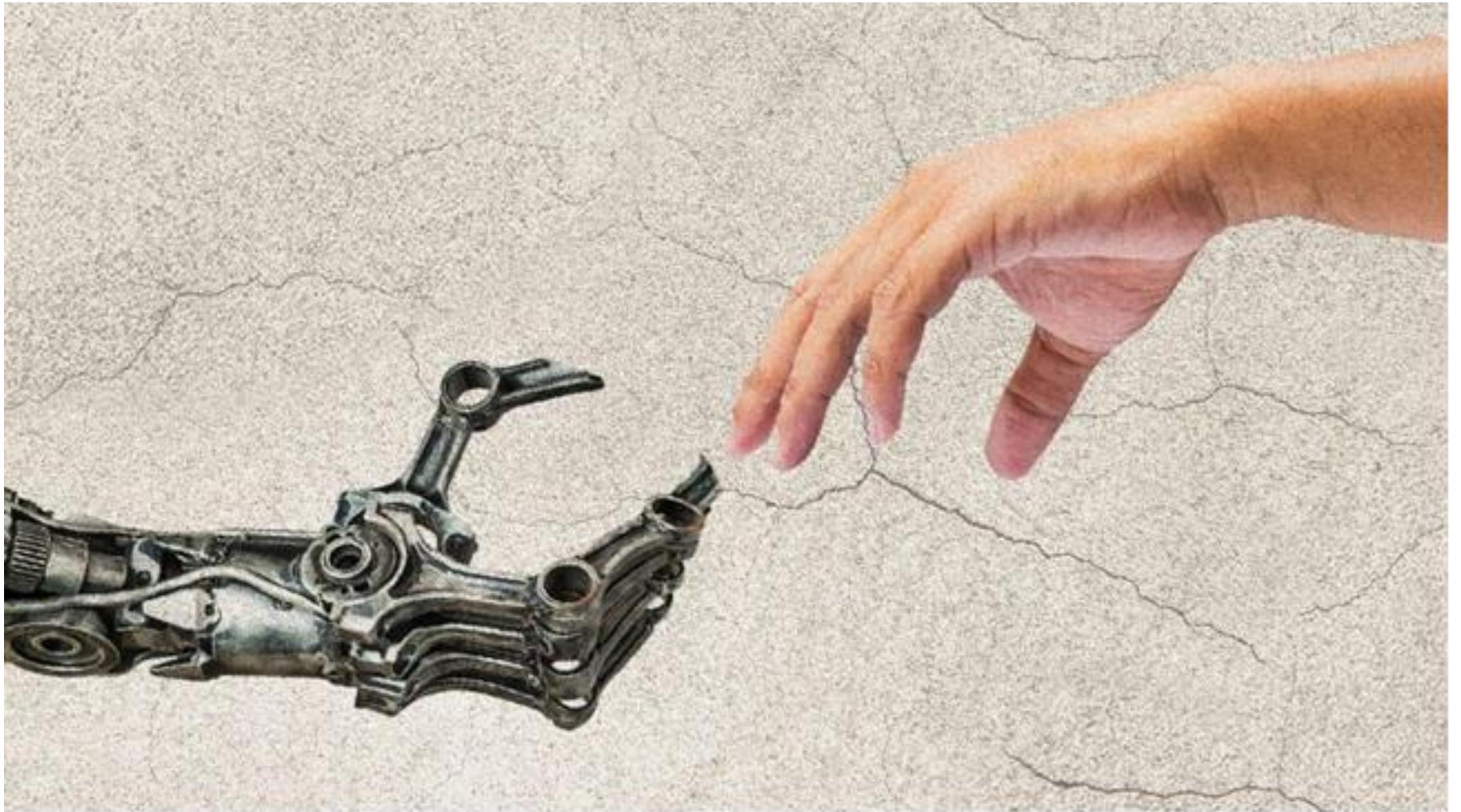


**THE FUTURE
IS HERE...**





BLOCKCHAIN



Definitions

Non-electromechanical “Robotics” – Umbrella term for cognitive technologies such as artificial intelligence (AI), machine learning, and automation

Robotic Process Automation (RPA) - virtual robots or “bots” / software that is programmed to mimic the keystrokes humans make in completing a process.

IBM’s Watson – A platform for building / augmenting RPAs. Adds ability to infer, reason, and interpret natural language, and the context of that language, and automate more decisions. Watson will gather the evidence available and make a probabilistic determination, eg. searching for & determining lowest cost options (vendors, shipping routes, etc.)





Impact - Finance & Accounting

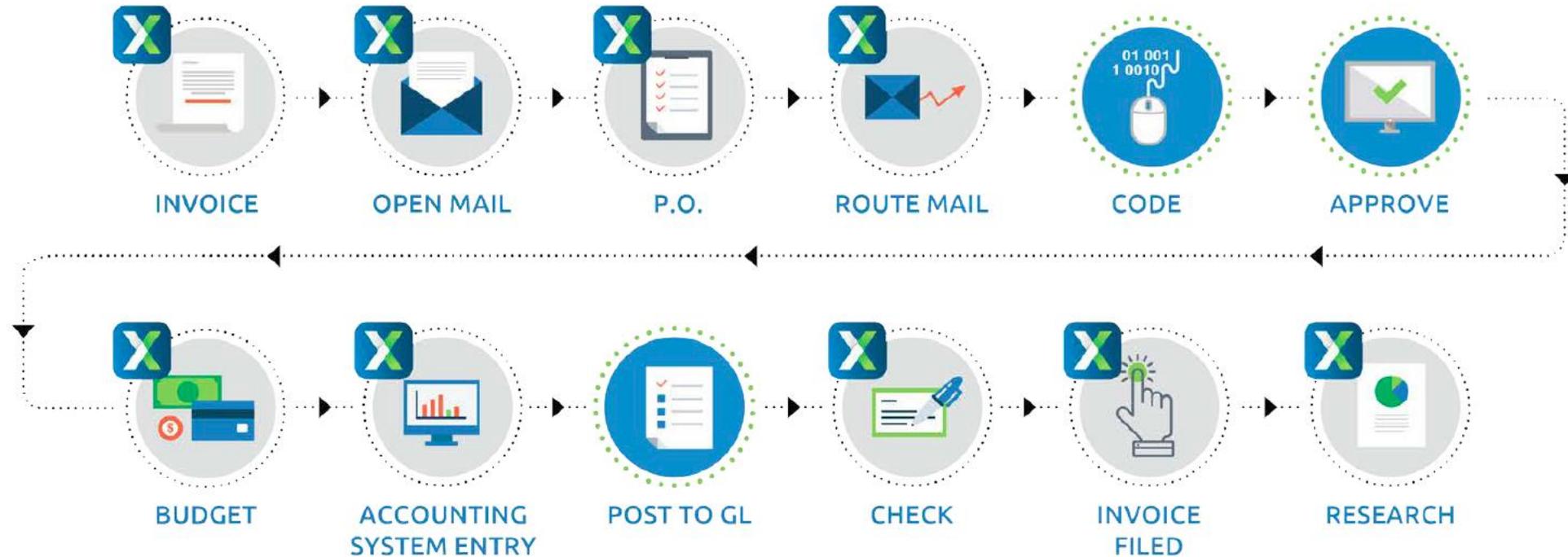
Percentage of time spent on activities that could be automated by adapting currently demonstrated technology:

- Data processing tasks – 34%
- Data collection tasks – 16%
- Stakeholder interactions – 23%
- Applying expertise – 19%

While RPA is largely based on technological capabilities that have been around for some time (like screen scraping, work flow, and rules engines), only recently beginning to penetrate companies in a significant way

Enterprise-wide, the number of potential use cases seems almost limitless, although most of the potential is so far untapped.

AFTER AUTOMATION WITH AVIDXCHANGE





The **BIG QUESTION**...will technology help people do their jobs more efficiently and create new ones, as it has in the past, or eventually displace humans?

Impact - Jobs



McKinsey Global Institute

- Less than 5% of current jobs could be completely replaced by technology.
- Current technology could be used to automate 45% of individual activities
- 5% of activities tap human creativity

			Percentage of time
Goods-producing industries	Resource extraction	63%	
	Construction	49%	
	Manufacturing	30%	
Service-providing industries	Accommodation and food services	75%	
	Technology, media, telecom	51%	
	Arts, entertainment, and recreation	47%	
	Retail, trade and transportation	42%	
	Services - professional and other	40%	
	Finance and insurance	37%	
	Health care and social assistance	36%	
	Educational services	35%	
	Administrative and government	31%	

Impact - Jobs

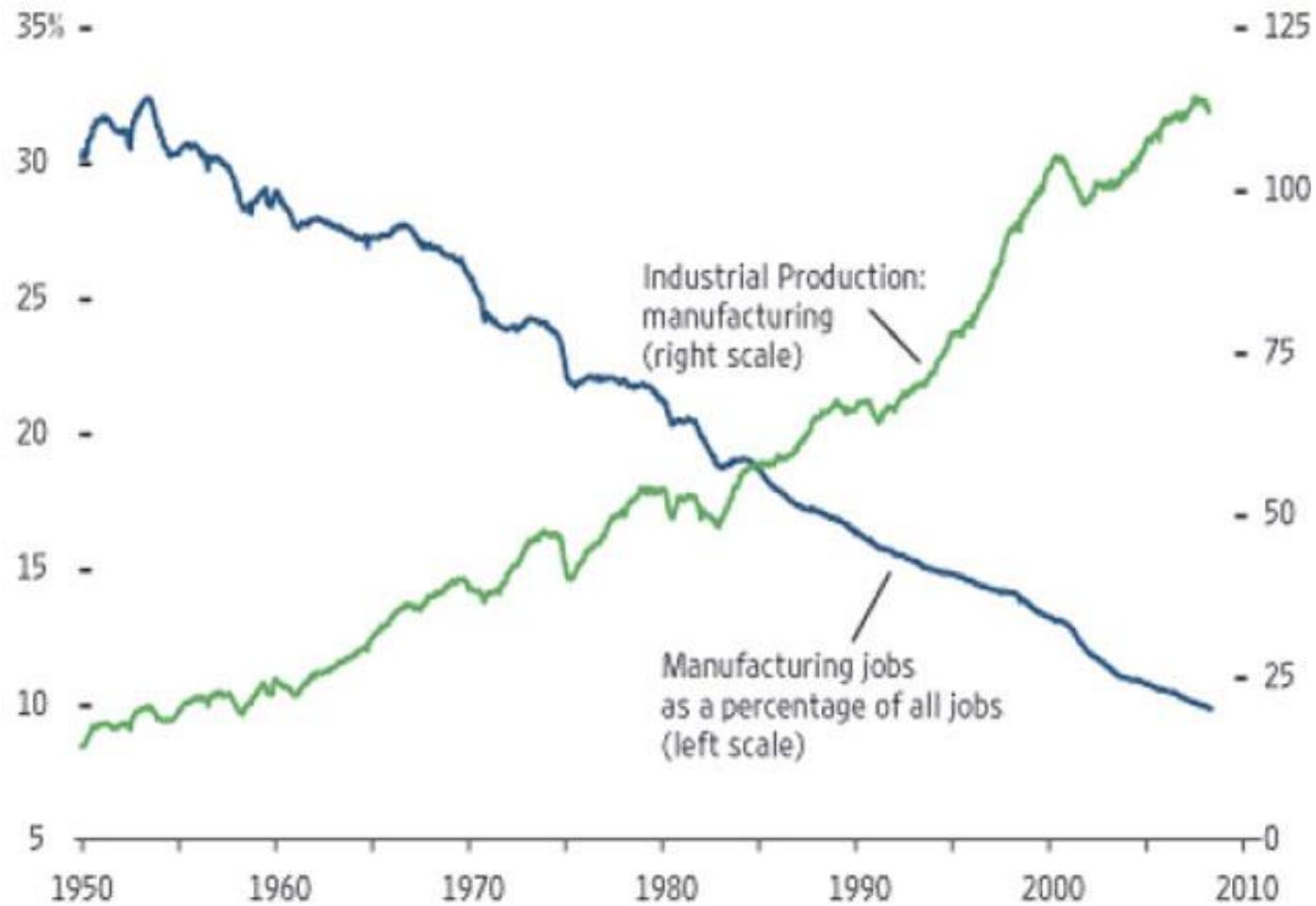
Manufacturing

- According to a 2015 study by Ball State University, an estimated 5M U.S. factory jobs have evaporated since 2000 and most of those (88%) were lost to increased productivity due to automation.
- For every robot per thousand workers, up to six workers lost their jobs and wages fell by as much as three-fourths of a percent



The Productivity Revolution

Manufacturing job share vs. manufacturing output (index: 2002=100), 1950-2008



Source: Brian Wesbury, First Trust Portfolios

Impact - Jobs



Forrester forecasts:

- Cognitive technologies (robots, artificial intelligence (AI), machine learning, and automation) will replace 16% of US jobs, while an equivalent of 9% jobs will be created — a net loss of 7% of US jobs — by 2025.
- Office and administrative support staff will be the most rapidly disrupted.
- The cognitive era will create new jobs, such as robot monitoring professionals, data scientists, automation specialists, and content curators: Forrester forecasts 8.9 million new jobs in the US by 2025.
- 93% of automation technologists feel unprepared or only partially prepared to tackle the challenges associated with smart machine technologies.

An Optimas study says that by 2025, financial institutions will reduce their human workforce by 10%—resulting in roughly 230K fewer heads—as computers take their place.



WHAT IS 5G?

- Next generation of wireless networks
- Will provide higher speeds, greater capacity, and lower latency
- Will be capable of supporting billions of connected devices and 'things'
- Distributes intelligence throughout the network



2G

Cellular Comms.



3G

Data and the 'app' revolution



4G

Faster data rates



5G

Reactive, smart, and connected devices



Official 5G standard, known as 5G NR (new radio), probably won't come out until 2018

Much higher speeds / much lower latency

First applications – home internet

Will drive “driveless” cars

Full commercial rollouts and 5G mobile phones in 2019/20





Verizon (Samsung) 5G home router

Verizon has pledged to deliver pre-5G to 11 cities by mid-2017

Current avg home internet speed in the US as of 2016 - 55 megabits-per-second (approx. 6.5 megabytes-per-second)

5G Home Routers – have achieved speeds of up to 4 gigabits-per-second (Gbps), or 500 megabytes-per-second

At those speeds, download a 50GB game in under two minutes, or a 100GB 4K movie in under four min.



Current Technology



Intel “Kaby Lake”

7th Generation Core

Aimed at 2-in-1s and laptops

14nm mfg process

Native support for USB 3.1

*Won't work with Windows 7



Intel Optane Memory

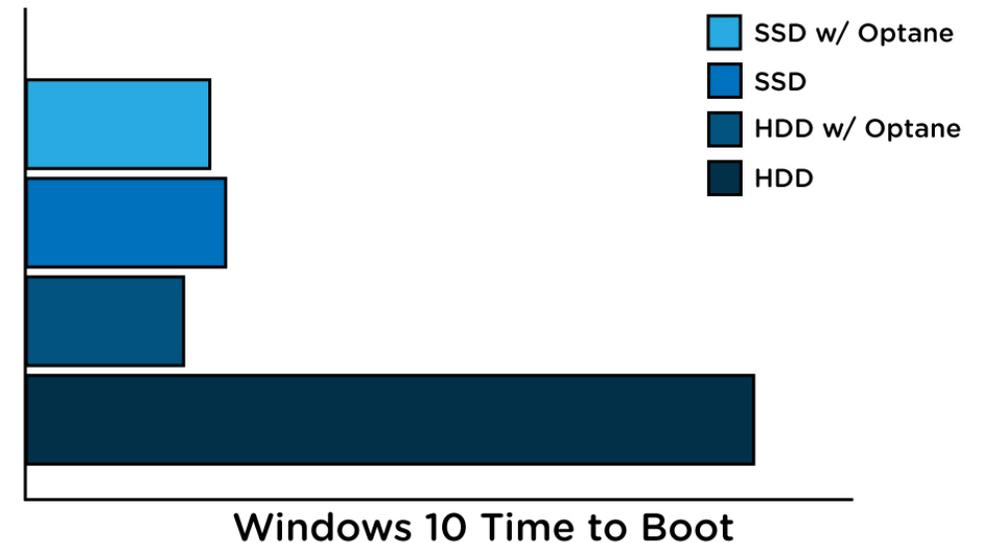
New class of non-volatile memory for SSD caching

Makes a HDD run as fast as an SSD

Available in 16GB and 32GB capacities

Only works with Intel Kaby Lake processor

\$44 / \$77





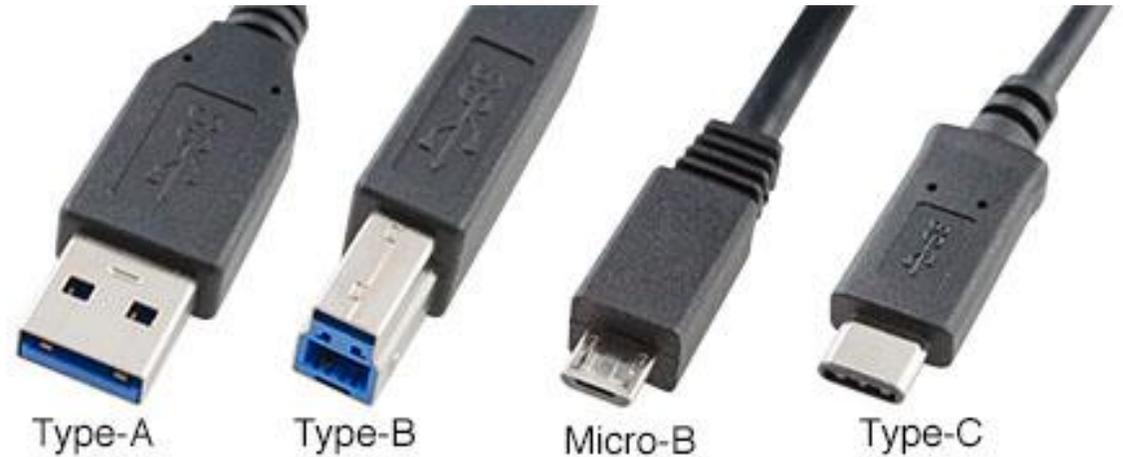
Windows 10

USB Type-C

Universal orientation – i.e. reversible

2x faster than USB 3.0 – up to 10Gbps

Supports - DisplayPort, HDMI, power (100 watts), USB, and VGA



Thunderbolt™ 3

The USB-C that does it all



More Speed



40 Gbps

More Pixels



Two 4K

More Power



Up to 100W

More Protocols



Bluetooth 5.0

2X speed

4X range

8X throughput

Connectionless data transfers

- Instead of automatically requesting to pair with a device, Bluetooth 5.0 will be smart enough to analyze the type of connection required to transmit the information.

Avail early 2017



AMOLED (Active-Matrix Organic Light-Emitting Diode)

Image Quality: Richer colors, deeper blacks, and sharper images

Thickness: No backlight means they're thinner and lighter

Power: 30-50% less power

Response Time: 1000 times faster than LCD, so fast images aren't blurred

Viewing Angle: Widest field of view



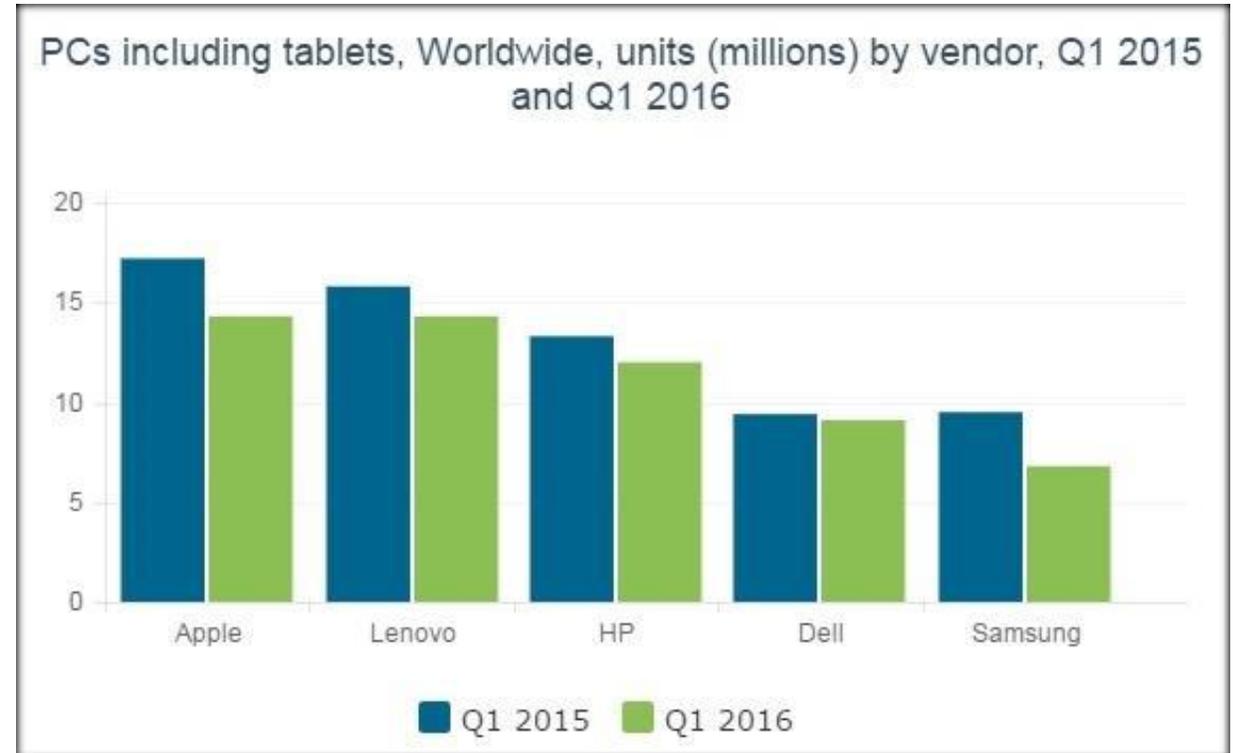
Products/ Devices



PC & Tablet market

PC/Tablet market continued its downward slide in the first quarter of 2016 as total shipment volumes fell to their lowest point since 2011.

Worldwide PC shipments — including desktops, notebooks, tablets, and 2-in-1 tablets — totaled 101 million units during the period, a 13 percent year-on-year decline.







Microsoft

Microsoft Surface Pro

12.3-inch - 2736-by-1824-resolution screen w/ stylus

Intel Kaby Lake m3/i5/i7

RAM – 4GB-16GB

Storage – 128GB-1TB

1.7 lbs

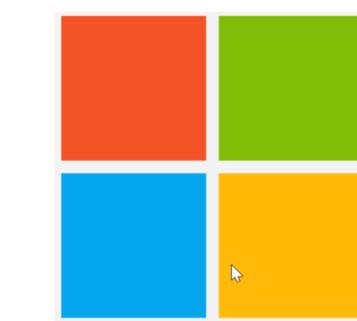
Finger print sensor

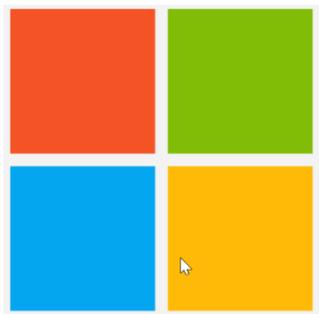
13 hours battery life

No USB-C / Thunderbolt 3

Price - \$799-\$2,699

Avail Jul-17





Microsoft Surface Book

13.5 inch – 3000 x 2000 resolution screen

Sixth Generation Intel i5/i7

RAM – 8GB-16GB

Storage – 128GB-1TB

Windows 10 Pro

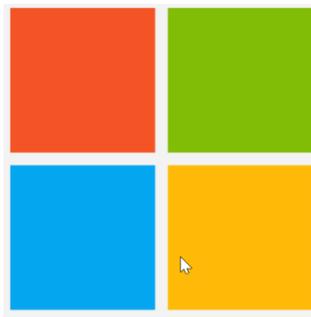
3.3 lbs

Battery life – 15+ hours

Pen

Price - \$1,499-\$3,199





Microsoft Surface Studio

All-in-one desktop

28" tilt screen / 4500 x 3000 pixels / .4" thick

Intel 6th gen Core i5 or i7

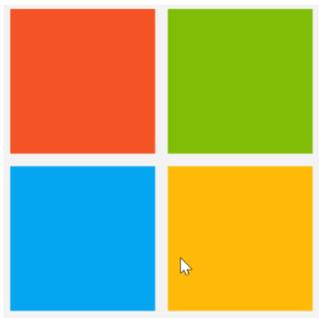
8/16/32GB RAM

1 or 2 TB HDD

Surface pen, keyboard and mouse included

Starts at \$2,999





Microsoft Surface Laptop

Windows 10 S – only runs apps from the Windows Store

Targeted at students?

Intel Core i5 / i7

Display - 13.5-inch 2,256 x 1,504 resolution

2.7 pounds

14+ hours of battery life

Avail Jun-17



LenovoTM

Lenovo ThinkPad X1 Carbon

14" WQHD antiglare display (2560 x 1440)
with multitouch

Intel i5 or i7 Kaby Lake chip

256 / 512 GB SSD

8/16 GB RAM

2 USB-C with Thunderbolt 3 / 1 USB 3.0

WiGig

Windows Hello – facial or fingerprint login

16 hrs of battery life

2.5 lbs

Starts at \$1,475



Lenovo X1 Yoga (2nd Gen)

Dimensions - 13.1" x 9.0" x 0.69"

Display

- 14" WQHD OLED (2560 x 1440) Touch 300 nits
- 14" WQHD IPS (2560 x 1440) Touch 270 nits
- 14" FHD IPS (1920 x 1080) Touch 270 nits

Intel Kaby Lake i5/i7

Ram – Up to 16 GB

Storage – 128 GB - 1 TB SSD

Weight – 2.99 lbs

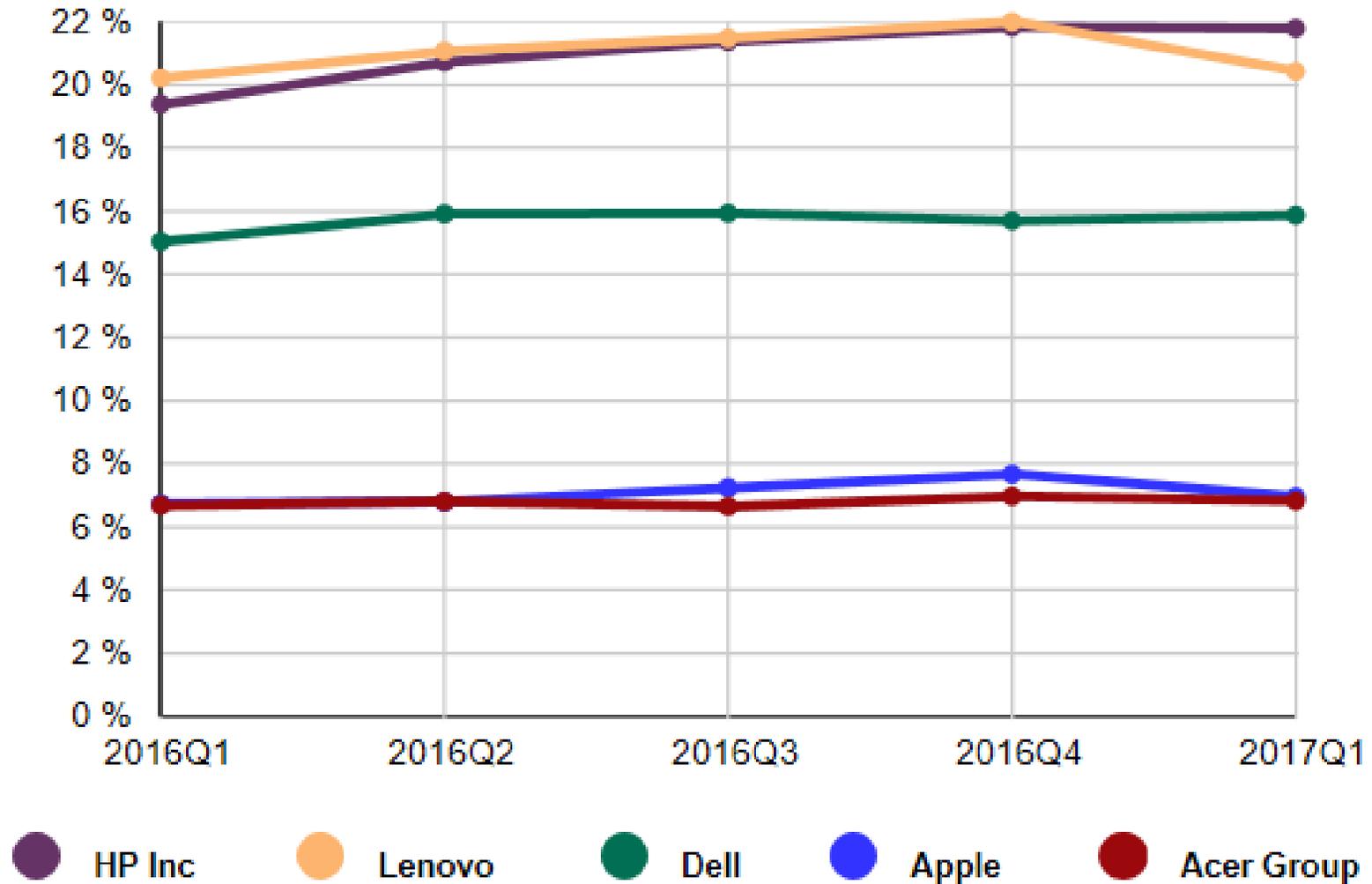
Battery – up to 15 hours

I/O - 2 Intel® Thunderbolt™ 3, 3 USB 3.0, HDMI, WiGig

Colors – Black or Silver



Top 5 Worldwide Traditional PC Vendors, 1Q 2017 Prelim (Share in Units)





HP Spectre X2

12.3" (3000 x 2000) display

Digital pen input

Intel Kaby Lake i5/i7

RAM - 8GB - 16GB

Storage - 128GB-1TB

8 hours battery life

Starts at \$999





HP Spectre Envy x360 13 or 15

4K display (1920x1080)

Intel Kaby Lake i5/i7 or AMD A9/A12/FX

RAM – 8GB-16GB

Storage – 128GB-1TB SSD

USB-C with Thunderbolt 3

Battery life – 14 hours

\$1,199 (13") or \$1,625 (15")





Apple iPhone 8 / 8 Plus

Display - 4.7-inch and 5.5-inch Retina HD

Chip - A11 64-bit Bionic chip

Touch ID

Cameras - 7MP (front) / 12MP (back)

Wireless charging (glass back)

Storage - 64GB / 256GB



Apple iPhone X

Display - 5.8-inch (diagonal) all-screen OLED Multi-Touch

Face ID - facial recognition

Storage – 64GB / 256 GB

Chip – A11

Cameras – 12MP wide-angle & telephoto (back) / 7MP front

IP67 rated





Apple MacBook Pro

13" or 15" Retina display

Touch bar replaces function keys / larger track pad

Sixth generation Intel i5 and i7 Core processors

8GB or 16GB RAM

256GB or 512GB storage

Intel Iris Graphics

Thunderbolt 3

Up to 10 hours battery life

Starts at \$1,499





Apple iPad

9.7" / 32GB storage

Announced 3/20/17

“Affordable” - \$329

Replaces iPad Air 2

A9 chip - same as the iPhone 6s.

128GB storage also avail - \$429



Apple iPad Pro

10.5" retina display

A10x CPU

Storage: 64GB-512GB

Apple Pencil





Apple AirPods

W1 chip - uses ultra low-power Bluetooth and keeps the two earbuds in sync

5 hours of battery life and include a charging case that gives you an extra 19 hours a charge time (24 hours total).

\$159



Apple Watch – Series 3

Cellular (no longer needs to be paired with iPhone)

- Make/receive calls
- Stream music
- GPS & altimeter

\$249 - \$399





Samsung Galaxy S8 / S8+

5.8" or 6.2" 2,960 x 1,440 display

"Invisible Home Button" beneath the Infinity Display

Iris scanning, face recognition and a back-mounted fingerprint sensor

microSD for expandable storage

IP68 water resistance

Samsung Pay

Wireless charging

Always-on display option

4 GB of RAM, 64 GB of built-in storage and Android Nougat

Bixby virtual assistant (DELAYED)

Avail 4/21/17

\$840



ACCESSORIES





WiFi Mesh

Mesh nodes function in the same way as a wireless router. Nodes use common WiFi standards (802.11a, b and g) to communicate wirelessly with users, and with each other.

Software instruct nodes how to interact within the larger network. Information travels across the network from point A to point B by hopping wirelessly from one mesh node to the next.

Nodes use dynamic routing to automatically choose the quickest/safest path.

Advantages include:

- Other than the router (master) unit, all other nodes are truly wireless
- The more nodes you install, the bigger and faster your wireless network becomes.
- Convenient where Ethernet wall connections are lacking.
- Useful for Non-Line-of-Sight (NLoS) network configurations where wireless signals are intermittently blocked
- Mesh networks are "self configuring;" the network automatically incorporates a new node into the existing structure without needing any adjustments by a network administrator.

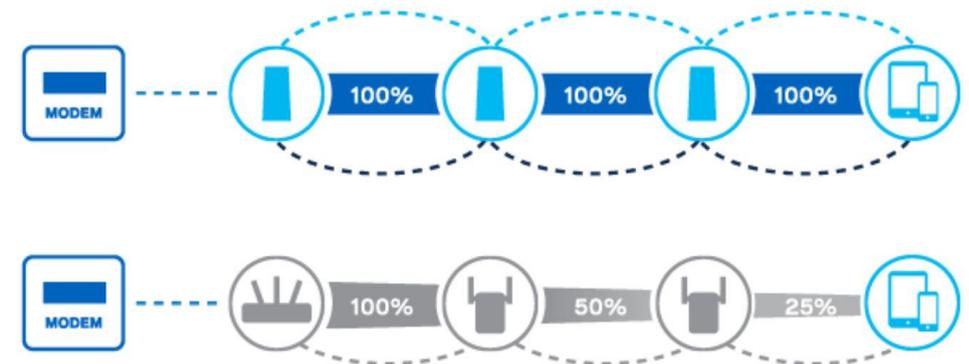


Router+Extender vs Mesh networks

Range extenders do a good job of filling in dead zones, but typically provide only half the bandwidth that you get from your main router.

Access points offer more bandwidth than range extenders, but require a wired connection to the main router. And both solutions typically create a new network SSID that you have to log in to as you move from one area of the house to another.

Unlike range extenders, which communicate with the router via the 2.4GHz or 5GHz radio bands, most Wi-Fi system satellites use mesh technology to talk to the router and to each other. Each node serves as a hop point for other nodes in the system. This helps the nodes farthest from the router to deliver a strong Wi-Fi signal as they are talking to other nodes and not relying on one-to-one communications with the router.



Netgear Orbi AC3000 Tri-Band Wi-Fi System

Router + satellite(s)

Tri-Band WiFi creates a dedicated wireless connection between the Orbi Router and Satellite(s) delivering Internet speeds similar to a wired ethernet connection.

Use the Orbi app (iOS and Android) to install & personalize

Single WiFi name (SSID)

Integrates with Amazon Echo/Alexa

\$349



NETGEAR®
orbi™

Better WiFi. Everywhere.
Add an additional 2,000 sq. ft. of strong WiFi coverage with an Orbi Add-on Satellite

The bottom right section of the slide features a lifestyle photograph of a family of three sitting on a couch in a living room. In the foreground, a white Orbi satellite unit sits on a wooden coffee table. A blue circular graphic highlights the satellite unit, which is also shown in a smaller inset image. To the right of the photo is the Netgear Orbi logo, consisting of the word 'NETGEAR' in a bold, black, sans-serif font above the word 'orbi' in a blue, lowercase, sans-serif font with a trademark symbol. Below the logo is the slogan 'Better WiFi. Everywhere.' in a bold, black, sans-serif font, followed by the text 'Add an additional 2,000 sq. ft. of strong WiFi coverage with an Orbi Add-on Satellite' in a smaller, black, sans-serif font.

Google WiFi

Expand coverage via 802.11s
mesh network

Place anywhere there is a power
outlet

\$129





LG 38UC99-W

38" Class 21:9 UltraWide®
WQHD+ IPS Curved LED
Monitor (37.5" Diagonal)

USB Type-C™ & USB 3.0 Quick
Charge

Bluetooth Speakers with Rich
Bass

\$1499



Samsung CH711 Quantum Dot monitor

16:9 monitor – comes in 27- and 32- inch

Resolution: 2560x1440

Avail - ??





STEAM®



\$14.99

Rift or Vive



Sanho HyperDrive

2016 MacBook Pro USB-C expansion hub

Silver and Space Gray

Kickstarter \$49

Avail Mar-17



SanDisk

Announced Sept-16

Avail - ??

Price - ??



Lenovo Smart Storage

Dual-band WiFi remote storage hub can connect wirelessly to almost any of your smart devices, worldwide

Auto-sync will back up your data will back up automatically when you're within WiFi range

Stores up to 6 TB of photos, movies, and other digital files

DLNA streams movies and music on any device, anytime

Avail - ??



Omnicharge 20

20400mAh battery

Output

- AC/HVDC – Max output power: 100W
- Two fast charge USB ports
- Wireless

Input

- AC
- Solar
- Automotive

OLED screen

\$299

Avail ??



Internet of Things





Internet-connected speaker that can answer your questions, stream music from the internet, add items to your shopping list, control devices, and more

Alexa (think “Siri in a can”)

Pricing

- Echo - \$180 (\$99 for Amazon Prime members)
- Tap - \$130
- Dot - \$50





5.9 inches (compared to 9.25 inches on the original)

Better wake word processing, improved beamforming technology, and enhanced noise cancellation

Stylish - Charcoal, sandstone, or heather gray fabric finish

Avail Oct-17

\$99 or \$119 (walnut veneer, oak veneer, or silver finish)



Amazon's Alexa Is a Fast Learner

Number of third-party skills available for Amazon's virtual assistant Alexa



Lenovo Smart Assistant

Supports Amazon Echo
“skills”

Harman Kardon edition
(better speakers)

Wireless Smart Storage
device



Everything that works with Amazon Echo

Alexa Devices

Smart Home Hubs

Lighting

Switches, Dimmers, and Outlets

Locks and Home Security

Heating and Cooling

Automotive

Services

Miscellaneous



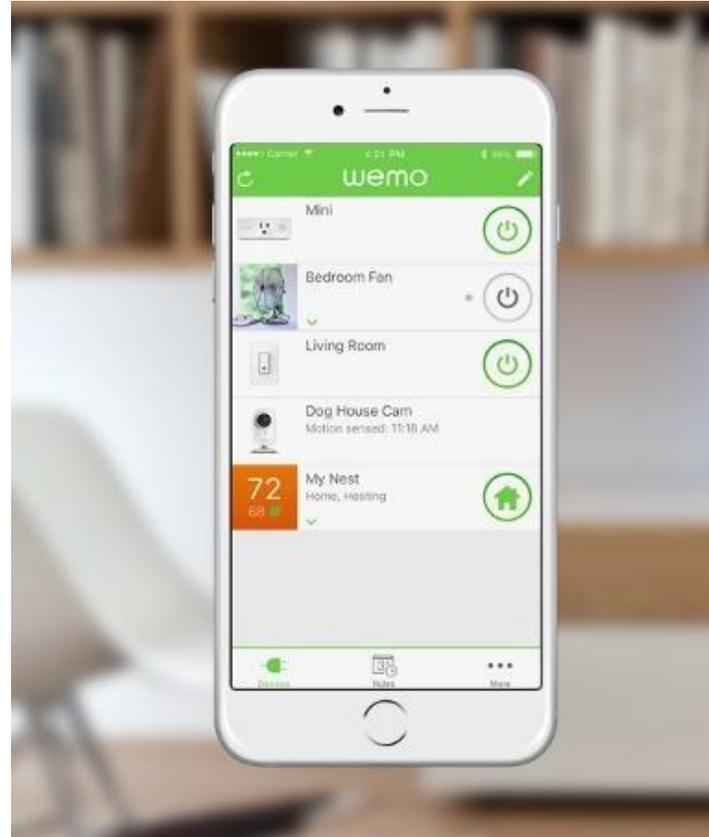
WeMo Mini

Smart plug

Phone or voice control

Works with Amazon Echo &
Google Home

\$35



WeMo Light Switch

WeMo app to "custom calibrate for any [dimmable] bulb type," including incandescent, CFLs, or LEDs.

Night Mode to "prevent harsh lights at night." Set a specific brightness for a certain time of day

Works with Amazon Echo & Google Home



Sengled Element

Smart scheduling / smart control

Energy usage tracking

App based control

Dimmer compatible

Color temperature tuning

Set Element to mimic the sun rising by automatically turning on and becoming brighter as your wake-up time approaches

Use 80% less energy than incandescents

Last for up to 20 years

\$60 (kit) / \$18 (bulb)



Rachio Smart Sprinkler Controller

8 or 16 zone

Control from smartphone

Auto adapts to weather

Connects to Amazon Alexa, Google Assistant, IFTTT & Nest)

Starts at \$200



EPA WaterSense Certified

Rebates available, up to 100% cost.

garageio

SHOP

WORKS WITH GARAGEIO

INSTALL

SUPPORT

Control Your
Garage. Anytime.
Anywhere.

BUY NOW

Available at

amazon



Anova Culinary Nano

Multi-cook - control multiple units simultaneously

Bluetooth 4.2

iOS/Android app

\$89

Avail Nov-17



Skills to try...

Time / Timers

News briefing

Weather

Music playback (Spotify, Amazon)

Starbucks

Kitchen conversions

Smart devices – lights, TV, thermostat, sprinklers

7-minute workout

Bartender

Uber / Lyft

Call home!

amazon

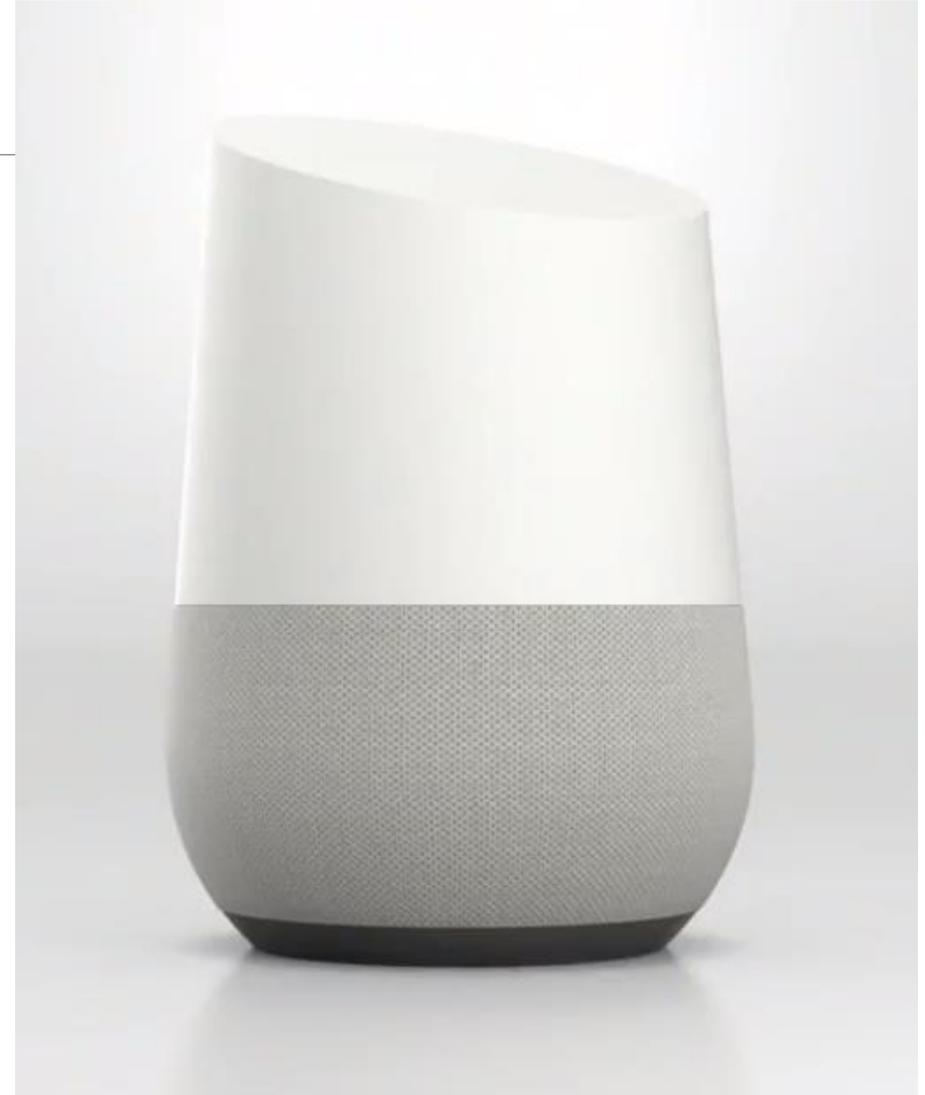


Google Home

Three focus areas:

- Entertainment – links to Chromecast
- Task completion – eg. add a lunch date to your calendar, dim the lights or turn off the heat (Nest)
- Internet search – information and product ordering

Price - \$129



Microsoft Invoke

Powered by “Cortana”

Skype for calling

Will also have features similar to its competitors

- ability to control smart appliances
- tell users what the traffic conditions
- latest news

Avail – Fall-17

Price - ??



GADGETS



Tylt Energi Pro Backpack

Charge up to 3 devices simultaneously with the 20,100 mAh Quick Charge battery

2-USB and 1-USB-C port

Even recharge a laptop



Ember mug

Average serving temperature for coffee is 160°F/71°C (scalding) yet the preferred average drinking temperature is around 135°F/57°C.

Ember will rapidly cool beverages down to the preferred temperature - then hold it at that exact temperature for hours

Designed by Ammunition Group, (same team that designed Beats headphones)

\$149



Rocketbook Everlast notebook

Smart, microwave-to-erase-and-reuse notebook. Pop your Rocketbook wave in the microwave to erase and reuse your notebook up to 5 times

Blast your notes to Google docs, Dropbox, iCloud, Evernote, Box and email

Android or iOS

Letter or Executive size

\$27



Audio & Entertainment



Bose Hearphones

Earbuds + app

Combines hearing aid amplification with active noise cancellation, directional microphones and smart features

Modes

- Focused conversation
- Group conversation
- Music
- Television
- Personal saved settings

Release - unknown



Bose SoundSport Free

Bluetooth wireless ear buds

Battery life - 5 hours

IPX4 water resistance

Volume optimized EQ

\$249



Bragi Dash Pro / Starkey

Two versions

- Dash Pro
- Dash Pro designed by Starkey (avail from licensed audiologists)

Connects to Android, Apple or Windows devices via "one-touch" setup

5 Hours of battery life

iTranslate – real-time language translation

Integration with IBM Watson

4GB internal storage

Waterproof to 3 feet

\$329 - \$499



Mymanu CLIK

Touch/swipe/press control

Live translation – 37 languages!

Texts, calls and other notifications are presented directly into your ears, so you don't have to look at your phone to see who calling

Water resistant

Multiple colors

\$199

Avail May-17



TiVO Bolt Plus



3TB internal drive & up to 11TB total storage available

6 tuners

Works with cable or FiOS only (no antenna, U-Verse or satellite support)

Stream Netflix, Amazon, Hulu, Vudu, and much, much more!

Supports commercial skip (SkipMode): One button skips to the end of a commercial break (where available)

Supports QuickMode 1.3x (watch a show in fast-forward mode with minimal audio distortion)

Supports for 4K/UHD

Includes gigabit Ethernet

Supports faster AC WiFi speeds

TiVo service required. All-in (aka Lifetime - \$549.99), annual (\$149.99), or monthly (\$14.99) service available.



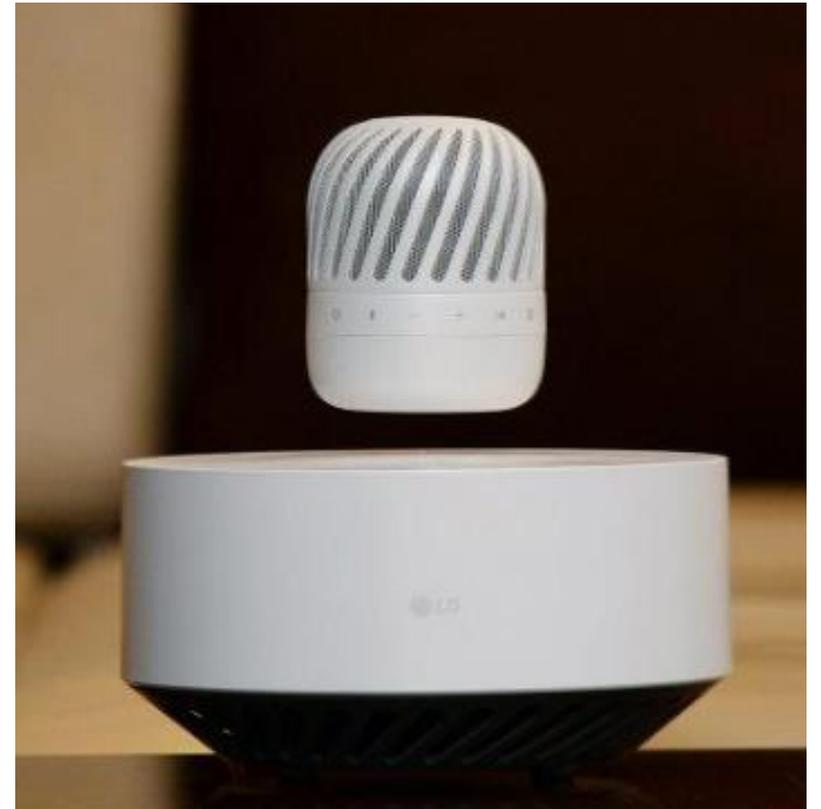
LG Levitating Portable Speaker PJ9

Bluetooth speaker

When fully charged, it can float and pump out music in all directions for up to 10 hours. But when it runs out of juice, the speaker gently descends on to its Levitation Station and starts recharging, all while continuing to play audio.

Base houses subwoofer

IPX7 rated so go for outdoor/aquatic use

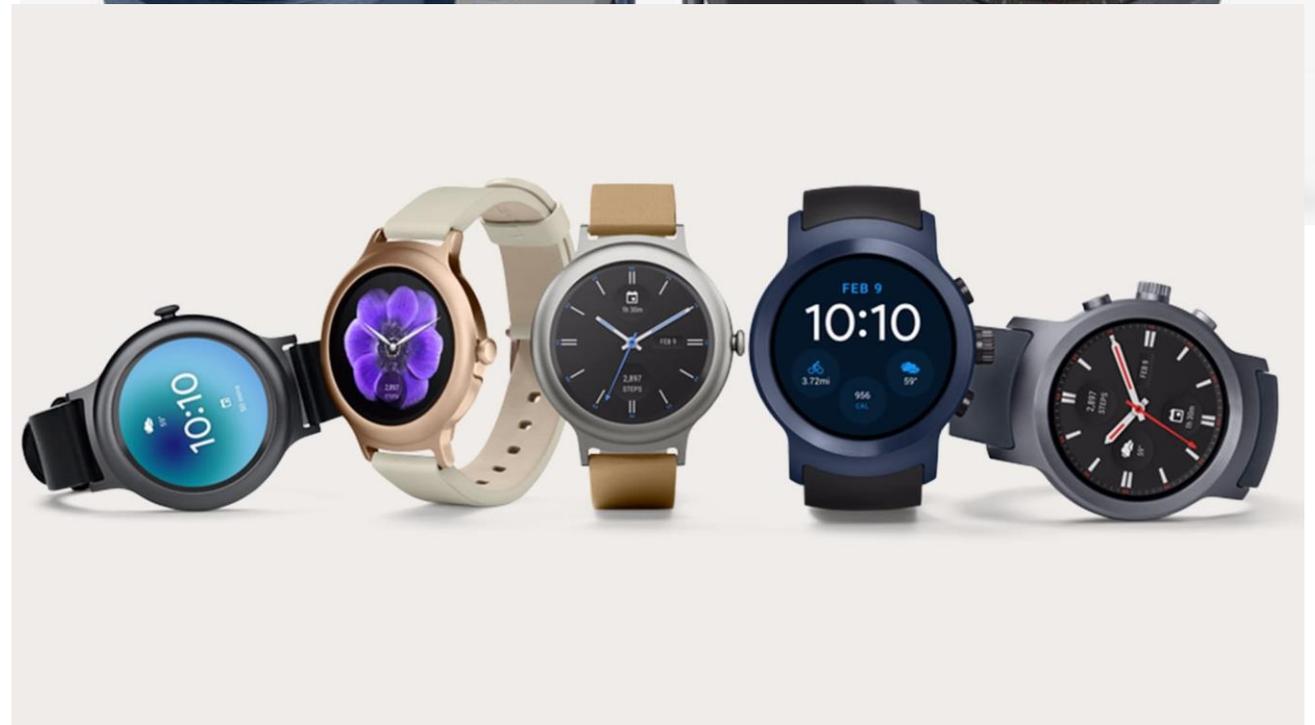


#FAIL?



LG Watch

Android Wear 2.0



Muse Ring

Headphone audio control (volume up|down, play|pause|skip)

Answer or reject calls

Call pre-programmed numbers

Alert emergency contacts of medical emergencies

Track steps, distance and goals

Monitor calories burned, heart rate and blood pressure

Unlock your phone, computer or Bluetooth door

Send customized responses to incoming messages

Control Bluetooth devices, lights, thermostat, and more



Welt

Activity Tracking – steps and sitting

Waist circumference

Eating habits

30 days battery life

Bluetooth 4.0

\$149



Pavlok

Wearable device that releases a mild electric stimulus to help you reduce cravings, break bad habits and increase your productivity.

Multiple colors

Avail now

\$179



Amazon Echo Look

Voice-activated camera and a Style Check service that combines machine learning algorithms with personalized outfit advice

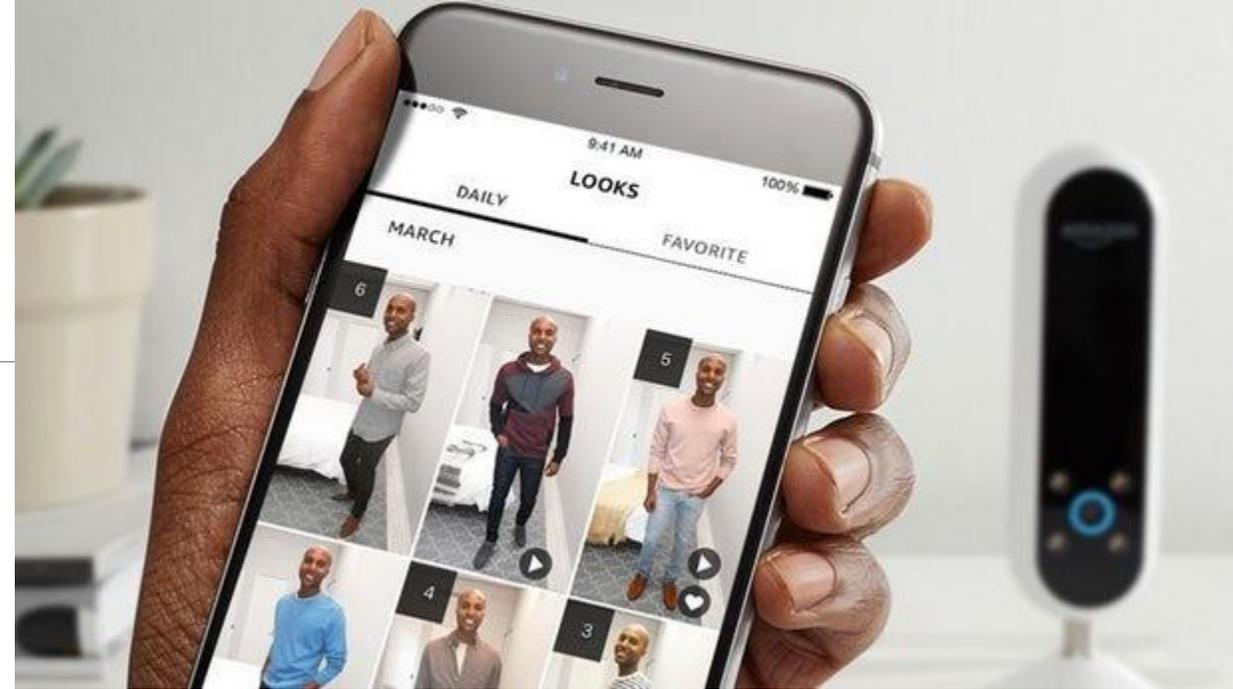
Powered by Alexa

Depth-sensing camera and built-in LEDs have a clear view of your entire body

Browse through the shots you've taken on the Look's companion smartphone app, select the best one, and share it to the social media account of your choice

\$200

Avail - ??



Foldimate

Cloths folding machine

Avail - ??

~\$850



Withings Hair Coach

Analyzes your hair health and routine.
Tracks the following:

- Dryness
- Damage
- Breakage
- Tangling
- Force & rhythm of brushing
- Gestures
- Stroke count

Uses a microphone that listens to the sound of your hair being brushed, 3-axis load cells that measure the force of your brushing, an accelerometer and a gyroscope, and conductivity sensors for determining if it's brushing dry or wet hair.

Avail Fall-2017



Modobag

TSA Compliant

8 mi. at 8 MPH

2 USB charging ports

GPS tracking

Weighs *ONLY* 20lbs

Avail May-17

\$1,095



twitter

@dcieslak